Volume 160, 1999

Toxicology and Applied Pharmacology

AN OFFICIAL JOURNAL OF
THE SOCIETY OF TOXICOLOGY

ACADEMIC PRESS

Copyright © 1999 by Academic Press
All rights reserved

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Publisher. *Exceptions:* Explicit permission from Academic Press is not required to reproduce a maximum of two figures or tables from an Academic Press article in another scientific or research publication provided that the material has not been credited to another source and that full credit to the Academic Press article is given. In addition, authors of work contained herein need not obtain permission in the following cases only: (1) to use their original figures or tables in their future works; (2) to make copies of their papers for use in their classroom teaching; and (3) to include their papers as part of their dissertations.

The appearance of the code at the bottom of the first page of an article in this journal indicates the Publisher's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (222 Rosewood Drive, Danvers, Massachusetts 01923), for copying beyond that permitted by Sections 107 and 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1999 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0041-008X/99 $30.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.

∞

CONTENTS OF VOLUME 160

Number 1, October 1, 1999

Protein S-Thiolation Can Mediate the Inhibition of Protein Synthesis Induced by *tert*-Butyl Hydroperoxide in Isolated Rat Hepatocytes
Isabelle Latour, Ennio De Ros, Jean-François Denef, and Pedro Buc Calderon 1

Cytotoxicity and Aromatase (CYP19) Activity Modulation by Organochlorines in Human Placental JEG-3 and JAR Choriocarcinoma Cells
Robert J. Letcher, Ineke van Holsteijn, Henk-Jan Drenth, Ross J. Norstrom, Åke Bergman, Stephen Safe, Raymond Pieters, and Martin van den Berg 10

Comparison of the Effects of Various Peroxisome Proliferators on Peroxisomal Enzyme Activities, DNA Synthesis, and Apoptosis in Rat and Human Hepatocyte Cultures
Valérie Goll, Eliane Alexandre, Catherine Viollon-Abadie, Laurence Nicod, Daniel Jaeck, and Lysiane Richert 21

Organophosphorus Compound-Induced Modification of SH-SY5Y Human Neuroblastoma Mitochondrial Transmembrane Potential
Kent Carlson and Marion Ehrich 33

Metabolism of Methyl *tert*-butyl Ether and Other Gasoline Ethers by Human Liver Microsomes and Heterologously Expressed Human Cytochromes P450: Identification of CYP2A6 as a Major Catalyst
Jun-Yan Hong, Yong-Yu Wang, Flordeliza Y. Bondoc, Maojung Lee, Chung S. Yang, Wen-Yu Hu, and Jinmei Pan 43

Dose-Dependent Metabolism of Fluoromethyl-2,2-difluoro-1-(trifluoromethyl)vinyl Ether (Compound A), an Anesthetic Degradation Product, to Mercapturic Acids and 3,3,3-Trifluoro-2-(fluoromethoxy)propanoic Acid in Rats
Evan D. Kharasch, Carole Jubert, Douglas K. Spracklin, and Gary M. Hoffman 49

Dermal Absorption and Distribution of Topically Dosed Jet Fuels Jet-A, JP-8, and JP-8(100)
Jim E. Riviere, James D. Brooks, Nancy A. Monteiro-Riviere, Kamon Budsaba, and Charles E. Smith . . . 60

Cadmium Uptake and Transepithelial Transport in Control and Long-Term Exposed Caco-2 Cells: The Role of Metallothionein
A. Blais, S. Lecoeur, G. Milhaud, D. Tomé, and M. Kolf-Clauw 76

Pharmacodynamics of Formaldehyde: Applications of a Model for the Arrest of DNA Replication by DNA–Protein Cross-Links
Henry d'A. Heck and Mercedes Casanova 86

Interaction of PAHs and PCBs with Ecdysone-Dependent Gene Expression and Cell Proliferation
Eva Oberdörster, Deborah M. Cottam, Felicit A. Wilmot, Martin J. Milner, and John A. McLachlan 101

Number 2, October 15, 1999

Cell-Type-Specific Activation of p38 Protein Kinase Cascades by the Novel Tumor Promoter Palytoxin
Shunan Li and Elizabeth V. Wattenberg 109

Metabolism of Chloroform by Cytochrome P450 2E1 Is Required for Induction of Toxicity in the Liver, Kidney, and Nose of Male Mice
Alexander A. Constan, Catherine S. Sprankle, Jeffrey M. Peters, Gregory L. Kedderis, Jeffrey I. Everitt, Brian A. Wong, Frank L. Gonzalez, and Byron E. Butterworth 120

Role of Ca^{2+} in the Regulation of Nickel-Inducible *Cap43* Gene Expression
Konstantin Salnikow, Tomasz Kluz, and Max Costa 127

Spontaneous and Thiazolidinedione-Induced B6C3F1 Mouse Hemangiosarcomas Exhibit Low *ras* Oncogene Mutation Frequencies
Steven K. Duddy, Suzanne M. Gorospe, Michael R. Bleavins, and Felix A. de la Iglesia 133

Role of Fas–Fas Ligand Interactions in 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD)-Induced Immunotoxicity: Increased Resistance of Thymocytes from Fas-Deficient (*lpr*) and Fas Ligand-Defective (*gld*) Mice to TCDD-Induced Toxicity
Arati B. Kamath, Iris Camacho, Prakash S. Nagarkatti, and Mitzi Nagarkatti 141

Distinct Immunomodulation by Autoimmunogenic Xenobiotics in Susceptible and Resistant Mice
Ruud Albers, Anita van der Pijl, Marianne Bol, Rob Bleumink, Willem Seinen, and Raymond Pieters 156

Effects of Microsomal Enzyme Inducers on Thyroid-Follicular Cell Proliferation, Hyperplasia, and Hypertrophy
Alan Hood, Raj Hashmi, and Curtis D. Klaassen 163

Effects of Smokeless Tobacco and Tumor Promoters on Cell Population Growth and Apoptosis of B Lymphocytes Infected with Epstein–Barr Virus Types 1 and 2
Hal B. Jenson, Jacques Baillargeon, Patty Heard, and Mary Pat Moyer 171

Tissue Distribution of Cadmium in Rats Given Minimum Amounts of Cadmium-Polluted Rice or Cadmium Chloride for 8 Months
Hideaki Hiratsuka, Shin-ichi Satoh, Masahiko Satoh, Motohiro Nishijima, Yasutaka Katsuki, Jin Suzuki, Jun-ichi Nakagawa, Masami Sumiyoshi, Makoto Shibutani, Kunitoshi Mitsumori, Toshiko Tanaka-Kagawa, and Masanori Ando 183

Decrease in Protein Kinase and Phosphatase Activities in the Liver Nuclei of Rats Exposed to Carbon Tetrachloride
Masami Omura, Toru Katsumata, Hiroyuki Misawa, and Masayoshi Yamaguchi 192

Vicinal-Thiol-Containing Molecules Enhance but Mono-Thiol-Containing Molecules Reduce Nickel-Induced DNA Strand Breaks
Shugene Lynn, Ghi-Ling Yu, and Kun Yan Jan 198

Number 3, November 1, 1999

The Role of Glutathione in Chronic Adaptation to Oxidative Stress: Studies in a Normal Rat Kidney Epithelial (NRK52E) Cell Model of Sustained Upregulation of Glutathione Biosynthesis
James S. Woods, Terrance J. Kavanagh, Jeannette Corral, Annabelle W. Reese, Dolores Diaz, and Maureen E. Ellis 207

Neuronal Differentiation in PC12 Cells Is Inhibited by Chlorpyrifos and Its Metabolites: Is Acetylcholinesterase Inhibition the Site of Action?
Kaberi P. Das and Stanley Barone, Jr. 217

Expression of the Arylhydrocarbon Receptor and the Arylhydrocarbon Receptor Nuclear Translocator during Early Gestation in the Rabbit Uterus
G. Tscheudschilsuren, S. Hombach-Klonisch, A. Küchenhoff, B. Fischer, and T. Klonisch 231

New Molecular Bioassays for the Estimation of the Teratogenic Potency of Valproic Acid Derivatives *in Vitro:* Activation of the Peroxisomal Proliferator-Activated Receptor (PPARδ)
Alfonso Lampen, Sandra Siehler, Ursula Ellerbeck, Martin Göttlicher, and Heinz Nau 238

Inflammatory Effect of Intratracheal Instillation of Ultrafine Particles in the Rabbit: Role of C-fiber and Mast Cells
A. Nemmar, A. Delaunois, B. Nemery, C. Dessy-Doizé, J-F. Beckers, J. Sulon, and Pascal Gustin 250

Selective Activation in the MAPK Pathway by Hg(II) in Precision-Cut Rabbit Renal Cortical Slices
Karen D. Turney, Alan R. Parrish, Jason Orozco, and A. Jay Gandolfi 262

Participation of the Fas-Signaling System in the Initiation of Germ Cell Apoptosis in Young Rat Testes after Exposure to Mono-(2-Ethylhexyl) Phthalate
John H. Richburg, Adrian Nañez, and Hong Gao 271

The Involvement of Microtubular Disruption in Methylmercury-Induced Apoptosis in Neuronal and Non-neuronal Cell Lines
Kyoko Miura, Nori Koide, Seiichiro Himeno, Ippei Nakagawa, and Nobumasa Imura 279

Bolus Intravenous Injection of Phosphorothioate Oligonucleotides Causes Hypotension by Acting as α_1-Adrenergic Receptor Antagonists
Patrick L. Iversen, Kurtis G. Cornish, Laurie J. Iversen, John E. Mata, and David B. Bylund 289

A Human Aryl Hydrocarbon Receptor Signaling Pathway Constructed in Yeast Displays Additive Responses to Ligand Mixtures
Charles A. Miller III 297

AUTHOR INDEX FOR VOLUME 160 304

SUBJECT INDEX FOR VOLUME 160 305

CHEMICAL INDEX FOR VOLUME 160 310